

WHAT IS CLAIMED IS:

1. A method of driving a display apparatus, the display apparatus including:

a first substrate having a first surface;

5        electron emitting elements, each configured to emit an electron beam, which are arranged on the first surface of the first substrate in a matrix form;

a second substrate having a second surface which faces the first surface with a gap therebetween;

10        an anode electrode formed at the second surface, and

a phosphor layer formed on the anode electrode, and configured to emit light rays in response to irradiation of the electron beam;

15        said display method comprising:

selecting a first combination of a first anode voltage and a first element voltage;

20        applying the first anode voltage to the anode electrode during a first period and applying the first element voltage to the electron emitting elements selectively during the first period;

changing the first combination to a second combination of a second anode voltage and a second element voltage;

25        applying the second anode voltage to the anode electrode during a second period and applying the second element voltage to the electron emitting

elements selectively during the second period; and  
changing the second combination to the first  
combination after the second period.

2. A method according to claim 1, wherein each of  
5 the electron emitting elements includes a element film  
and first and second electrodes opposing each other and  
disposed on the element film.

3. A method according to claim 1, wherein the  
display apparatus further includes:  
10 a plurality of scanning lines arranged parallel to  
each other on the first surface of the first substrate;  
a plurality of modulation lines which intersect  
the scanning lines so as to be electrically insulated  
therefrom and are arranged parallel to each other,  
15 the electron emitting elements being provided at  
intersections of the scanning lines and the modulation  
lines, and the first and second electrodes being  
respectively connected to the scanning line and the  
modulation line.

20 4. A method according to claim 3, wherein  
said display method further comprising:  
generating a first scanning and modulating signal  
including the first element voltage, and generating a  
second scanning and modulating signal including the  
25 second element voltage:

supplying the first scanning and modulating signal  
to the scanning and modulation lines respectively,

during the first period; and

supplying the second scanning and modulating signal to the scanning and modulation lines respectively; during the second period.

5           5. A method according to claim 4, further comprising inputting a display signal to generate the scanning and modulation signal, wherein the first and second combinations are so set as to provide a substantially same luminance display condition with  
10           respect to the same display signal.

6. A method according to claim 1, wherein changing the first combination includes switching a first power supply to a second power supply to generate the second combination.

15           7. A method according to claim 1, wherein changing the second combination includes switching a second power supply to a first power supply to generate the first combination.

20           8. A method according to claim 1, wherein the first and second periods are determined based on the first and second combinations respectively and are inverse proportional to an anode current flowing through the anode.

25           9. A method according to claim 1, wherein changing the first combination includes gradually changing the first anode voltage to the second anode voltage, and the first element voltage to the second

voltage, and changing the second combination includes gradually changing the second anode voltage to the first anode voltage, and the second element voltage to the first voltage.

5           10. A method according to claim 1, wherein changing the first combination includes applying an intermediate anode voltage between the first and second anode voltages to the anode and applying an intermediate element voltage between the first and  
10           second element voltages to the electron emitting element during an third period after the first period, and changing the second combination includes applying the intermediate anode voltage between the first and second anode voltages to the anode and applying the  
15           intermediate element voltage between the first and second element voltages to the electron emitting element during the fourth period after the second period.

          11. A method according to claim 1, wherein the  
20           first and second combinations cause the electron beams to be landed on first and second positions on the phosphor layer, respectively.

          12. A system for driving a display apparatus, comprising:  
25           a first substrate having a first surface;  
            electron emitting elements, each configured to emit an electron beam, which are arranged on the first

surface of the first substrate in a matrix form;

a second substrate having a second surface which  
faces the first surface with a gap therebetween;

an anode electrode formed at the second surface,

5 and

a phosphor layer formed on the anode electrode  
and configured to emit light rays in response to  
irradiation of the electron beam;

a selecting portion configured to select a first  
10 combination of a first anode voltage and a first  
element voltage to apply the first anode voltage to the  
anode electrode and apply the first element voltage to  
the electron emitting elements selectively, during a  
first period; and

15 a changing portion configured to change the first  
combination to a second combination of a second anode  
voltage and a second element voltage after the first  
period to apply the second anode voltage to the anode  
electrode and apply the second element voltage to the  
20 electron emitting elements selectively, during a second  
period, and change the second combination to the first  
combination after the second period.

13. A system according to claim 12, wherein each  
of the electron emitting elements includes a element  
25 film and first and second electrodes opposing each  
other and disposed on the element film.

14. A system according to claim 12, wherein

the display apparatus further includes:

a plurality of scanning lines arranged parallel to each other on the first surface of the first substrate;

5 a plurality of modulation lines which intersect the scanning lines so as to be electrically insulated therefrom and are arranged parallel to each other, the electron emitting elements being provided at intersections of the scanning lines and the modulation lines, and the first and second electrodes being  
10 respectively connected to the scanning line and the modulation line.

15. A system according to claim 12, wherein the selecting portion includes:

a signal generator configured to generate a first  
15 scanning and modulating signal including the first element voltage, supply the first scanning and modulating signal to the scanning and modulation lines respectively, during a first period, generate a second scanning and modulating signal including the second  
20 element voltage and supply the second scanning and modulating signal to the scanning and modulation lines respectively, during a second period.

16. A method according to claim 15, further comprising an input portion configured to input a  
25 display signal to generate the scanning and modulation signal, wherein the first and second combinations are so set as to provide a substantially same luminance

display condition with respect to the same display signal.

17. A method according to claim 12, further comprising a switching portion configured to switch a first power supply to a second power supply to generate the first combination.

18. A method according to claim 12, further comprising a switching portion configured to switch a second power supply to a first power supply to generate the first combinations.

19. A method according to claim 12, wherein the first and second periods are determined based on the first and second combinations respectively and are inverse proportional to an anode current flowing through the anode.

20. A method according to claim 12, wherein the changing portion gradually changes the first anode voltage to the second anode voltage and the first element voltage to the second voltage, and gradually changes the second anode voltage to the first anode voltage, and the second element voltage to the first voltage.

21. A method according to claim 12, wherein the changing portion includes an applying portion configured to apply an intermediate anode voltage between the first and second anode voltages to the anode and to apply an intermediate element voltage

between the first and second element voltages to the electron emitting element during an third period after the first period and during the fourth period after the second period, respectively.

- 5           22. A method according to claim 12, wherein the first and second combinations cause the electron beams to be landed on first and second positions on the phosphor layer, respectively.